



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/787,651 | 06/28/2001 | Dieter Otto | 1589.GLE.PT | 4840 |

7590 09/07/2004

RANDALL B. BATEMAN
P.O. BOX 1319
SALT LAKE CITY, UT 84110-1319

EXAMINER

TRIEU, THERESA

ART UNIT PAPER NUMBER

3748

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,651

Applicant(s)

OTTO, DIETER

Examiner

Theresa Trieu

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-42, 62, 93-101, 119, 120, 122 and 123 is/are pending in the application.
- 4a) Of the above claim(s) 43-61, 63-92, 102-118 and 121 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-42, 62, 93-101, 119, 120, 122 and 123 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the Amendment filed on April 15, 2004.

Claims 43-61, 63-92, 102-118 and 121 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species. Claims 33-42, 62, 93-101, 119, 120, 122 and 123 are under consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 33, 38, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapur et al. (Kapur) (Patent Number 5,037,283) in view of Inagaki et al. (Inagaki) (Patent Number 4,616,984).

Regarding claims 33 and 62, as shown in Figs 1 and 4, Kapur discloses a vacuum pump comprising: a drivable rotor (5) having a blade (15, 16, 17, 18, 19, 20) in a housing which can be set in rotation, the rotor (5) being formed as one piece, the rotor comprising a first longitudinal section (not numbered; however, clearly seen in Fig. 1) configured for being coupled to a drive shaft (not numbered; however, clearly seen in Fig. 2) via which a torque can be transmitted from a drive shaft to the rotor (5) and that the first longitudinal section being

Art Unit: 3748

formed as one piece with the rotor and wherein the rotor has a slot (21, 22, 23, 24, 25, 26) and first and second support sections (56, 57 – see Fig. 3), characterized in that the rotor comprises a second longitudinal section (not numbered; however, clearly seen in Fig. 3) and a third longitudinal section (not numbered; however, clearly seen in Fig. 3) and the second and the third longitudinal sections being formed as one piece with the rotor (5) and the rotor has one slot (21, 22, 23, 24, 25, 26) for the receipt of one blade, the one slot being disposed in the third longitudinal section. However, Kapur fails to disclose the rotor being a plastic.

As shown in Figs. 1 and 2, Inagaki teaches that it is conventional in the art to utilize the rotor (24) being a plastic. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the plastic rotor, as taught by Inagaki in the Kapur apparatus, since the use of thereof would have reduced the cost and to provide a lightweight pump.

Regarding claim 38, Kapur further discloses the slot (21, 22, 23, 24, 25, 26) has a diameter is smaller than the rotor (5) diameter in the area of the slot in which the blade is displaceable.

2. Claims 34-37, 41, and 42, 93-96, 100, 101, 119, 120, 122 and 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapur ('283) in view of Inagaki ('984) as applied to claim 33 above, and further in view of Hattori et al. (Publication Number JP 61-149594).

The modified Kapur device discloses the invention as recited above; however, the modified Kapur fails to disclose the cavities extending into the central area of the rotor.

Regarding claims 34 and 93, Hattori et al. teach that it is conventional in the art to utilize the cavity (19) opening at the edge of the rotor (1); the rotor (1) having at least two

Art Unit: 3748

each introduced from a frontal side of the rotor and that the rotor having at least one closed wall (not numbered; however; clearly seen in Figure 1 and 2) running transversely or essentially transversely to the central longitudinal axis of the rotor (1), the wall separating the cavities (19) from one another in the axial direction. With regard to claims 35-37, 41, and 42, 94, 95, 96, 100, 101, 122, 123 as shown in Figures 2, 3 and 7, Hattori et al. further disclose the cavity is introduced from a position consisting of the group of the drive shaft (3), frontal side of the rotor, and the frontal face of the rotor (2) turned away from the drive; the rotor (2) comprising walls having a slight thickness (see Figure 2); the rotor (2) comprising two wall areas and a transition between the two wall areas of the rotor having a different thickness, and which is continuous; the rotor having at least two cavities (19) disposed next to one another which are separated from one another by a rib (see Figure 7); the rotor (1) having wall areas and wherein the rib is thinner than the rest of the wall areas of the rotor (see Figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the rotor having the cavity as taught by Hattori et al., to reduce the weight of the rotor, in the modified Kapur device.

3. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapur ('283) in view of Inagaki ('984) as applied to claim 33 above, and further in view of design choice.

The modified Kapur device discloses the invention as recited above; however, the modified Kapur fails to disclose a diameter size of at least one of the supports.

It is examiner's position that one having ordinary skill in the vacuum pump art, would have found it obvious to utilize the diameter of at least one on the supports is the same size/ smaller than the rotor diameter in the area of the slot, since they are merely design parameters,

Art Unit: 3748

depending on the temperature, pressure, or stress acted/applied on the vane, the rotor. Moreover, there is nothing in the record which establishes that the claimed diameter size of at least one of the supports, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

4. Claims 97-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapur ('283) in view of Inagaki ('984) as applied to claim 33 above, further in view of Hattori et al. (Hatori) ('594) as applied to claim 93 above, and further in view of design choice.

The modified Kapur device discloses the invention as recited above; however, the modified Kapur fails to disclose a diameter size of at least one of the supports.

It is examiner's position that one having ordinary skill in the vacuum pump art, would have found it obvious to utilize the diameter of at least one on the supports is the same size/smaller than the rotor diameter in the area of the slot, since they are merely design parameters, depending on the temperature, pressure, or stress acted/applied on the vane, the rotor. Moreover, there is nothing in the record which establishes that the claimed diameter size of at least one of the supports, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Response to Arguments

Applicant's arguments with respect to claims 33-42, 62, 93-101, 119, 120, 122 and 123 have been considered but are moot in view of the new ground(s) of rejection.

With regard to applicant's argument that Kapur '283 does not teach/suggest the third longitudinal section has the one slot (see page 17, 2nd paragraph). The examiner respectfully disagrees.

By definition, "comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim (see MPEP §211.03). Although Kapur patent discloses three slots (21, 22, 23, 24, 25, 26), the amended claim 33 is still anticipated by Kapur based on definition of the term "comprising".

With regard to applicant's argument that the Hattori's method of making rotor is different from the pending application's method. The examiner respectfully disagrees. Applicant should note that a claim for an article capable of such definition must define the article by its structure and not by the process of making it; since the claimed rotor is capable of structural definition, the patentability of the claims must be determined solely on the basis of recited structure, exclusive of process recitations. *In re Johnson*, 394 f.2d 591, 157 USPQ 620, 55 CCPA 1463. Applicants should also note that where a product by process claim is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an obvious difference between the two. *See In re Marosi*, 218 USPQ 289 (Fed.Cir. 1983).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 3748

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 703-308-6434. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 703-308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT



Theresa Trieu
Patent Examiner
Art Unit 3748